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PROVISIONAL SPECIFICATION.

An Improved Method and Apparatus for Mixing Oily Medicinal Substances with Liquids Supplied to the Sprayers of Inhaling Apparatus.

I, Dr. ANTON BULLING, of Karlstrasse 21/I, Munich, in the Empire of Germany, Physician, do hereby declare the nature of this invention to be as follows:

This invention relates to an improved method and apparatus for mixing
5 oily medicinal substances suitable for inhalation such as larch oil and the like, with the liquid supplied to the sprayers of inhaling apparatus.

For this purpose a current of compressed air is directed on to the surface of the liquid to be inhaled, that is to say, on to the medicinal oily substance floating on the surface of the said liquid. The air coming into contact with the
10 oily substance causes part of the latter to evaporate with intensity and to saturate the air. At the same time the powerful air current forces the oily substance underneath the surface of the liquid and conveys it, intimately mixed with the latter, to the sprayer.

One form of the apparatus for performing this method comprises a compressed air sprayer in which a current of air issuing from a nozzle sucks liquid
15 through tubes. For increasing the sprayer action a number of nozzles, for instance four, are provided. The air is forced through a concentric ring or tube with holes in its under surface directly onto the surface of the water, in order to come into contact with, and increase the evaporation of, the oily medicinal
20 substance floating on the latter, but more particularly in order to mix the said oily substance with the water so that it is carried with the latter through the tubes of the central sprayer which have their orifices below the water surface.

The oily substance is thus converted into spray that is to say, mixed with
25 air, together with the water.

The concentric ring or tube referred to is preferably arranged on floats in order to maintain it at a constant distance from the water level and thus to render the action uniform.

Dated this 22nd day of December 1903.

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HERBERT HADDAN & Co.
Agents to Applicant.

COMPLETE SPECIFICATION.

An Improved Method and Apparatus for Mixing Oily Medicinal Substances with Liquids Supplied to the Sprayers of Inhaling Apparatus.
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I, Dr. ANTON BULLING, of Karlstrasse 21/I, Munich in the Empire of Germany, Physician, do hereby declare the nature of my invention and in what
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Method and Apparatus for Mixing Oily Medicinal Substances with Liquids.

manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to an improved method and apparatus for mixing oily medicinal substances suitable for inhalation, such as larch oil and the like, with the liquid supplied to the sprayers of inhaling apparatus. 5

For this purpose a current of compressed air is directed on to the surface of the liquid to be inhaled, that is to say on to the medicinal oily substance floating on the surface of the said liquid. The air coming into contact with the oily substance causes part of the latter to evaporate with intensity and to saturate the air. At the same time the powerful air current forces the oily substance underneath the surface of the liquid and conveys it intimately mixed with the latter, to the sprayer. 10

One form of apparatus for performing this method is shown in longitudinal section in Fig. 1 of the annexed drawings, Fig. 2 being a plan view thereof.

This form of the apparatus comprises a compressed air sprayer, in which a current of air issuing from a nozzle sucks liquid through tubes. For increasing the sprayer action a number of nozzles *a*¹ for instance, four are provided. The air is forced through a concentric ring or tube *f* with holes *e* in its under-surface, directly on to the surface of the water, in order to come into contact with and increase the evaporation of, the oily medicinal substance floating on the latter, but more particularly in order to mix the said oily substance with the water so that it is carried with the latter through the tubes *b* of the central sprayer *a* *c* which have their orifices below the water surface. The oily substance is thus converted into spray, that is to say, mixed with air together with the water. 15 20 25

The concentric ring or tube *f* referred to, of which more than one may be used if desired, is preferably arranged on floats *h* *h* in order to maintain it at a constant distance from the water level and thus to render the action uniform.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:— 30

1. The method for mixing oily medicinal substances with liquid to be inhaled, in which compressed air is directed against the surface of liquid to which the said oily medicinal substances have been added, so that the said compressed air comes into contact with the said oily substances and produces a sufficiently intimate mixture thereof with the liquid for the oily substances, to be sucked with the water into sprayer tubes having their orifices under the said water surface. 35

2. Apparatus for performing the method described in Claim 1, comprising a tube or tubes concentrically arranged about the sprayer and provided with holes in its or their under surface or surfaces. 40

Dated this 8th. day of March 1904.

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Fig 1

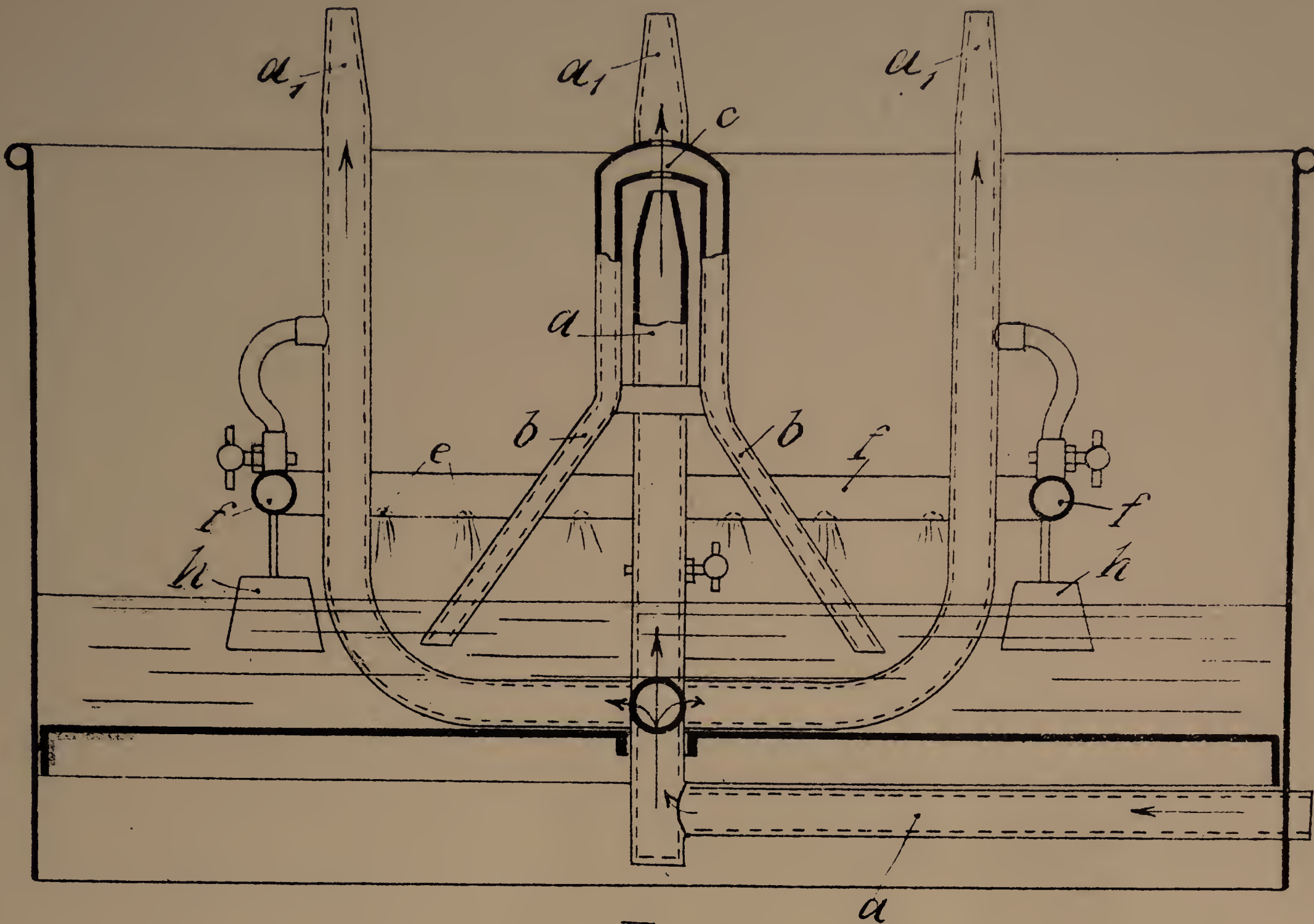
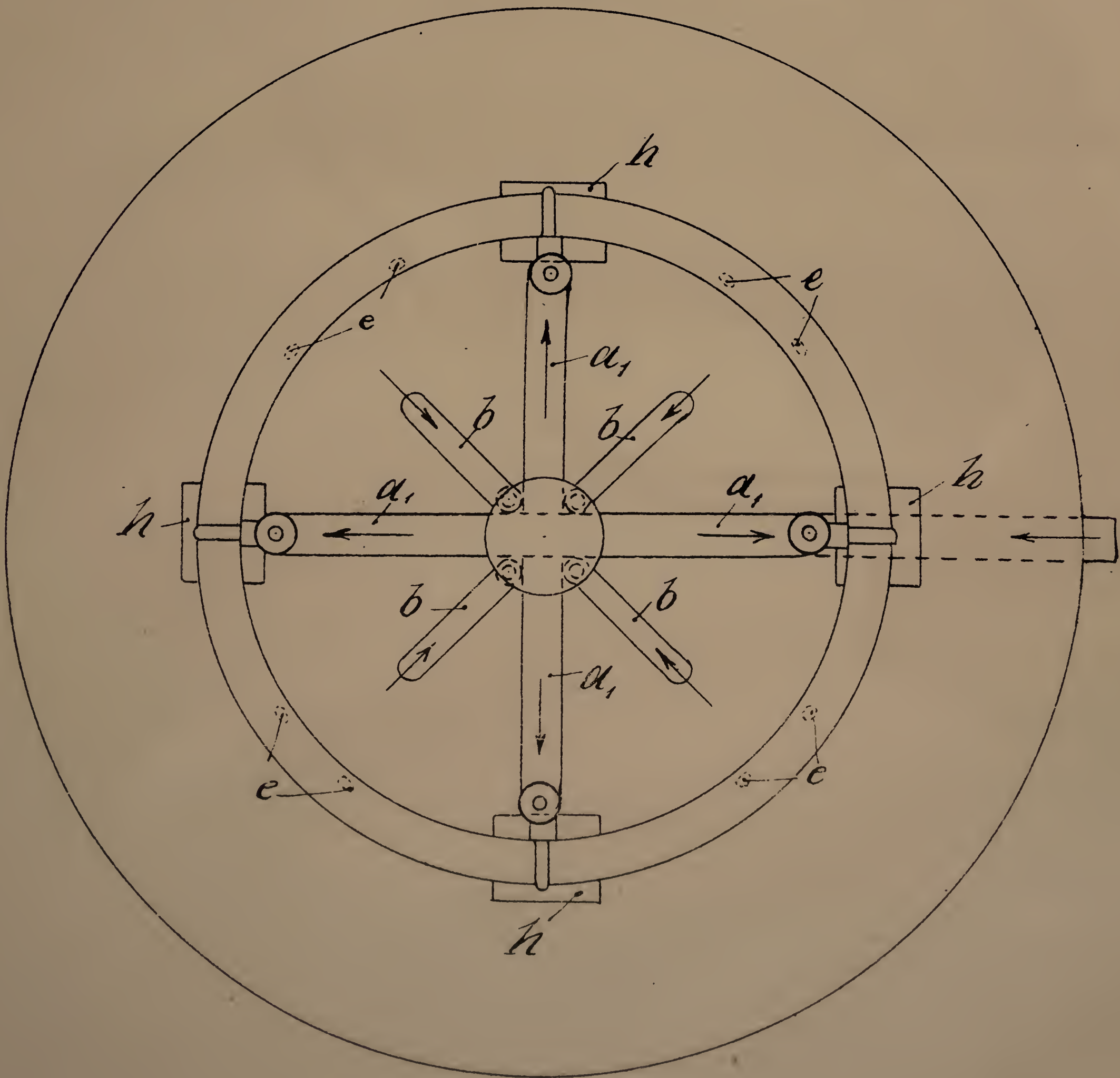


Fig 2



[This Drawing is a reproduction of the Original on a reduced scale.]

